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IDEOLOGY IN SOME MODERN SCIENCE FICTION NOVELS

Much has been claimed for science fiction.[1] Even those literary critics who have scored it for its pasteboard characters and its almost exclusive emphasis on action still have been willing to concede that science fiction can serve as a vehicle for social criticism. It seems clear, however, that the bulk of science fiction is not yet the social science fiction that Heinlein, Asimov and Campbell have called for. Instead, by radically simplifying man's emotional nature, and by altering the perspective from which one views man's accomplishments, science fiction soothes and reassures. The rational intelligence can preserve the future and make in it a better, fuller life for all men regardless of the artificial Earth distinctions of race or nationality. Herein lies the humanism of science fiction. It is a curiously innocent and affecting philosophy. Its appeal--but its limited appeal--in an age disillusioned with any simple faith in inevitable progress, is clear, for the outmoded naturalism found at the core of much science fiction is naive and unambiguous. Far from imaginatively coming to grips with accelerating change, science fiction looks backward to a future that will never be.

Fifteen American science fiction novels published after World War II have been analyzed for this study.[2] Works ranged widely in quality from Isaac Asimov's Pebble in the Sky, selected in 1952 by four critics as one of the 18 best works appearing to

that time, to one or two which surely must rank with the worst ever written.[3] The study was limited to American novels to keep the ideological bases relatively isolated. Post-war fiction was chosen because only in the early fifties did science fiction mushroom into prominence as a cultural phenomenon generating widespread interest and comment. Finally, the science fiction novel was chosen over the short story, in which so much of the field's best work lies, because comment, scholarly and otherwise, has tended to focus on the short story form; and the longer form, allowing for greater development of theme, seemed more appropriate for ideological analysis.

To such an analysis several assumptions are basic: primarily, that in any imaginative writing some residual material representative of a particular social viewpoint remains embodied in the writing--and that this residuum can be seen especially in the work of a writer primarily engaged in satisfying a segment of the mass culture audience. Science fiction seems particularly relevant to ideological analysis since its projections into the future can only be analogies to events and ideas already occurring. In the manipulation of these analogies in a melodramatic form, the science fiction author reveals ideological loyalties, biases, and presuppositions that may be readily traced.

The composite average of the hero which emerges from these fifteen novels is a single man in his thirties whose occupation or training is closely related to the physical sciences, if he is not a scientist or engineer in fact. Nearly all are earthborn, of what can be termed middle or, more rarely, lower class origins. Most are outsiders, however, by virtue of a physical or cultural characteristic, and several had been orphaned during childhood. Contrary to what some critics have noted, most are not organization men backed by an imperialistic galactic bureaucracy.[4] Nearly all are attractive to women. With one or two exceptions, all finally triumph over their antagonists.

Most often a man alone, with few emotional ties to the present or the past, the hero as outsider gains a privileged objectivity or detachment that frees him from doubt or enables him to respond to the conflict more appropriately. He may be a genetic accident: like Robert Headrock,[5] an immortal, or like Gilbert Gosseyn,[6] a man with two brains; he may be a lone-wolf development engineer,[7] an illiterate mechanic adrift in space whose SOS was ignored[8] or the mutant son in a ruling dynasty.[9] Each in his way is significantly outside the existing power structure.

Interestingly, however, scientific training alone does not generally create this characteristic detachment. The emotional traumas or congenital abnormalities noted above frequently precede the interest in science which provides the necessary technical competence to solve the novel's conflict, and chance, operating fundamentally and causally in the dramatic structure, is often the primary force selecting the hero. In assessing possible social implications of science fiction, some writers, most notably Robert Heinlein, have emphasized that the genre can be a medium for making valid inquiries into possible alternatives for organizing future human activities, that science fiction can provide a kind of knowledge about the probable results of various developments as they could be expressed in future social effects. Heinlein has defined science fiction as "realistic speculation about possible future events, based solidly on adequate knowledge of the real world, past and present, and on a thorough understanding of the nature and significance of the scientific method." Arguing that "observing the past in order to make plans for the future" is the scientific method itself, Heinlein concludes that "speculative fiction is much more realistic than is most historical and contemporary-scene fiction and is superior to them both."[10] Science fiction "is the most alive, the most important, the most useful, and the most comprehensive fiction being published today. It is the only fictional medium capable of interpreting the changing, head-long rush of modern life. Speculative fiction is the main stream of fiction--not, as most critics assume, the historical novel and the contemporary-scene novel."[11] Through science fiction, then, man can undertake experiments in imagination that would be too dangerous to undertake in fact.

Yet, in the novels analyzed, ten of the heroes are thrust into their key roles only through highly improbable accidents. More significantly, the majority of these fortuitously have special skills or aptitudes that uniquely fit them for the conflict: Joe Schwartz has a photographic memory;[12] Joe Burke is a skilled development engineer;[13] Gulliver Foyle has a phenomenally quick intelligence;[14] Gilbert Gosseyn has two brains.[15] Generally these novels do not deal with the plight of a culturally representative figure in an extrapolated technology. Instead they deal primarily with the extraordinary individual knowingly facing not only his own death but the possible death of mankind as well. This generalization suggests that science fiction is more generally an ingenious adventure than a serious attempt to chart the social effects of technological change in future societies

which bear an organic relationship to our own. It is fiction with a dash of science rather than science instrumentalized in a fictional form through which reliable generalizations about hypothetical futures may be elicited.

Analysis of the technologies projected in these novels does not tend to bear out the announced claims of science fiction writers, although strict technological extrapolation is common in the science fiction short story. Technological development is overwhelmingly construed to be increasing control over sources of energy through scientific discoveries, primarily in physics, and appropriate advances in engineering practice. This power finds expression in advanced weaponry and particularly in the development of virtually instantaneous interstellar travel and communication. The theoretical limit of the speed of light is nowhere acknowledged, a fact which Robert Heinlein argues is perfectly acceptable since the theoretical limits established by Einstein may be superseded by future discoveries.[16] Twelve of the novels contain some variation on the theme of instantaneous transportation; in two others virtually instantaneous time travel on earth is possible.

Other developments include advances in computer technology and psychological manipulation, improvements in automated production techniques or of control over atomic or magnetic power. Advances in chemical and metalurgical theory are occasionally hinted at. In one novel, the study of an advanced form of semantics is fundamental to a humane future and is seen as the corollary in terms of human engineering to the discoveries which have subdued matter and energy to man's bidding.

In some sense then, space and time are annihilated in the majority of these novels. The result is the elimination of any resistance or delay between will and the application of force. Once a decision is made, power can be brought to bear virtually instantaneously if necessary. The effect is to create a galactic analogue to three dimensional chess, that is, a complex situation in which the application of forces is contingent only on reaction time; distance introduces no necessary time lag. Ultimately, such a situation emphasizes creative intelligence embodied in a strategy subject to continual modification, and puts a premium on quick, decisive evaluation and reaction.

In the final analysis the projected technologies seem to be shaped less by the desire to record changes in social values brought about by extrapolated technologies and more by the threat of imminent destruction to all mankind. Thus a technology suited

to the instantaneous application of huge amounts of power often dominates. Social organization, however, is frequently anachronistic--a class-structured society, a planetary analogue to the Southern slavocracy, or a galactic organization comparable to the Roman empire. That these social conditions often spawn the conflict of the novel suggests that injustice, exploitation, and the threat of human extinction lie at the root of the science fiction novel.

Only four of the novels, in fact, can be discussed in terms of cultural extrapolation even broadly defined. In The End of Eternity Isaac Asimov investigates an earth-bound system of time travel and concludes that the psychological pressures involved would eventually bring about its destruction. Gordon Dickson's No Room for Man projects a computer-oriented society with an even greater measure of psychic maladjustment.[17] Jerry Sohl's Costigan's Needle tells of the society developed by a random sampling of urban Americans suddenly precipitated into a simultaneous reality level remarkably like the site of Chicago in 1700 but without Indians.[18] J. Hunter Holly's The Time Twisters answers the question "What would an ordinary suburban American do if inhabitants of the twenty-first century tried to steal his child in order to stave off an alien attack?"[19] That even these extrapolated situations do not offer convincing evidence of the redeeming social significance of science fiction seems inescapable.

In the context of an advanced technological society in which the very possibility for man's future development is threatened by enormous forces, the typical hero manipulates an equally enormous amount of power in the course of his adventures. The sources of his power are three primarily. The most important is the rational, confident control of matter and energy through some application of scientific knowledge. The hero is master of techniques which put the power at his disposal. Less often the source of power involves regression to a more primitive and instinctual but powerful emotional response, or more rarely still, it is an unexpected dispensation from an alien civilization, a situation somewhat analagous to revelation.

But it is the rational control of power through science that is the source of the average hero's power. Through his job he may have picked up data which, when analyzed, would end a despotic monopoly as in Isaac Asimov's The Currents of Space.[20] He may, by experimentation, learn to control the basic flux of the universe.[21] Or he may gain his power through formal semantic training and the accident of an extra brain.[22] The hero's

power thus ultimately lies in the exercise of human intelligence and in the ability to understand reality and to develop ways to exploit this understanding. In virtually every case, the hero's power is legitimized pragmatically; it is used to preserve mankind, generally from an alien menace or from a historical development that would end in scientific stagnation. Power used to these ends is its own justification. It is frequently exercised independently of any social structure and often has a revolutionary effect on existing structures. It is usually subject to no formal external controls and is wielded flexibly by the hero in response to his antagonist's threats. Often there is no way in which the control of the power can be passed to someone else since in a very real way the power and the hero are one, the former dependent on some unique attribute of the latter.

In these novels evil may take the form of hairy invaders in the twenty-first century[23] or a robot bomb turned loose millions of years ago by an alien race, ignorant of man, on the other side of the galaxy.[24] These are the exceptions, however. Generally, evil is associated with economic maladjustment or exploitation, totalitarian oppression, or the limitation, unconsciously or systematically, of man's possibilities for invention, creativity, and scientific progress. Thus in The End of Eternity, Asimov postulates a system of time manipulation in which a small group of "Eternals" controls society, and the technological change upon which it rests, for thousands of centuries into the future. In order to stabilize the system, however, space travel must be interdicted throughout the future, a ban which thwarts man's natural evolutionary development and leads, in the far "upwhen," to extinction. In this situation, evil is at worst an instinctive conservatism in man which leads him to choose the safest alternative if given the capacity to participate consciously and simultaneously throughout the evolutionary process centuries into the future. Since the masters of the system can see into and travel in the future at will and since their system can survive only if man is kept restricted to earth, the Eternals adjust reality throughout time so that no effort to design a space vehicle is allowed to conclude successfully. Such conservatism, if maintained beyond a certain point, would lead eventually to man's extinction. Asimov's hero yields to this recognition and chooses to destroy the system.

Evil may be associated with the murderous vitality of the primordial life force. It is a condition from which man evolves

slowly and with occasional regression, as in the case of Dalroi. A stereotype of the hard-boiled detective living in the shadowy area between the police and the underworld, Dalroi is magnificently primitive, but for that reason he must be killed because he represents an atavistic tendency which, given free reign, might reverse man's slow progress to emotional maturity and a full partnership with the more rationally stable intelligent life forms in the galaxy who control earth's destiny at the time the novel covers.[25] Evil is nowhere mysterious or ambiguously interwoven in the very fabric of consciousness or existence. It is more likely to be mechanically conceived and hence capable of scientific solution. It is, in short, a problem, frequently less complex than that of devising the necessary countervailance.

The ideological implications of these generalizations may be organized in terms of four inter-related topics: the nature of man; the nature of evil, or that which is anti-man; the nature of science, the intermediary between man and evil; and history, the record of this mediation.

The science fiction hero who saves mankind for a better tomorrow frequently tends to suggest an ideal type, or at least a more advanced type of human organization. Harmoniously integrated with a nature he ultimately controls, man is seen moving in the direction of increased rationality and intelligence. Potentially at home throughout the galaxy, he is necessarily infinitely adaptable. As increasing rationality brings increasing environmental control, as earth is seen against the backdrop of the galaxy, the oppressive grip of lagging social organization is imaginatively and actually broken. It is at this point that the significance of instant travel seems especially relevant. The power to transport matter instantaneously puts the individual beyond society. Put in another way, the hero is freed from a localized environment and a specific past. His view can then be scientific and universal--and so objective. Thus he need not agonize over any effects his actions may have on particular limited areas, although admittedly the heroes of these novels are not faced with decisions that could inflict undeserved suffering, nor do the authors of these novels seem aware of the implications for totalitarianism that seem readily apparent in any conception that puts so much emphasis on the sweeping, inclusive view of the state, here magnified to galactic proportions.

At the root of the evolutionary process is human intelligence. The basic science fiction conflict is likely to be set in

terms of a puzzle or problem to be solved, often under the pressure of time and imminent annihilation, conditions which are presumed to spark creative, i.e. unusual or unorthodox but highly effective, responses. Solving the threat not only saves mankind but contributes to the unfolding evolutionary process. In several novels the ordinary powers of the hero are expanded under the pressure of crisis, suggesting, sometimes overtly, that the potential of the average human brain is many times its apparent power--and that education, broadly construed, is the key to realizing this revolutionary potential. This education may involve psychic integration through the discipline of semantics or the understanding and subsequent purging of the unconscious as in Lords of the Psychon. Whatever the process, it is often seen in terms of a triumph of the conscious and rational over the unconscious and irrational, resulting in a radically enlarged creative and intellectual capacity.

While creative intelligence ultimately proves effective, the first impulse in many of these novels is frankly instinctual, a visceral response to the threat of extinction. The creative power of hatred or the threat of imminent destruction generates new ideas, strengthens resolve, or nerves the individual to personal danger which he would not normally face. This initial impulse, however, is quickly harnessed and finds rational, deliberate, intelligent expression. Significantly, Dalroi, the only character who continues to react from a basis of primitive emotion, is destroyed in the end. Gulliver Foyle, who operates on a purely emotional basis for some time, eventually undergoes a kind of religious experience, expiating his earlier sin through both personal suffering and creative deed.

Additional support for the presumed ultimate rationality of man can be found in an analysis of the effect of power on individuals in the novels. Unlimited political or economic power corrupts the holders in nearly every case. Indeed, the emotionally oriented or unintegrated personality seeks these kinds of power, which are reactionary and exploitative, frequently engaged in maintaining privilege, hereditary dynasties, and oppression. Scientific power, by contrast, does not corrupt and is disinterested, benevolent, progressive, and associated with truth. In some novels, most notably Rogue Ship, democracy is equated with scientific government; explicitly the basis of democratic processes is not a theoretical notion about man but a matter capable of scientific investigation and empirical verification. Science

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fiction appears to hold out to man a future in which the ambiguities and frustrations of the uncontrolled unconscious are eliminated, and emotion is disciplined to rational perception, which, once established, becomes the basis for truly rational activity.

In a universe ultimately assumed intelligible, evil must necessarily be rationalized as well. Almost wholly external to man and taking the form of a threat to human life or man's destiny, it is generally perceived as a danger that can be met by the application of sufficient force or outwitted through superior cunning. The threat may take the form of superior alien scientific achievement that seems at first beyond the power of man's science. Even this situation, as embodied in The Wailing Asteroid or Lords of the Psychon, is less grave than it first appears once the implicit supporting assumptions are revealed. Alien threats have discoverable limits. Moreover, their forces cannot be applied continuously at many simultaneous points. Further, man is capable of hiding from these forces either through random, therefore unpredictable, action or because the force is powerless to look into or control every human mind at the same time. Most comforting of all, the force is subject to universal natural laws. However advanced the science may be which supports the alien force, its principles may be discovered, grasped, and manipulated by application of sufficient intelligence. In this way the force can be equalized eventually--and presumably, once its nature and extent are defined, will be found to have an Achilles heel.

As noted earlier, evil may also be associated with the past, rooted in anachronistic economic or political institutions or in the dark primordial instinctualism through which man first successfully sustained himself in his struggle with his environment. In this context evil may be seen simply as an outdated response to an earlier relationship of man to nature. Scientific understanding, accompanied as it is by increasing rationalization, will eliminate such responses. A stage in evolution rather than a condition of existence, evil expresses itself in terms of inertia, resistance, non-rationality, or inefficiency. Thus evil often appears more mistaken than malicious, more inappropriate than ineluctable. Life is seen to be un-ironic, unambiguous, and essentially undivided. Progress leads toward integration--the elimination of any duality, whether of good and evil, mind and matter, or time and space.

Science provides the intermediary between man's expanding intelligence and ability to control the environment and the

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threats from an alien culture or from man's residual primitivism that would thwart that progress. The primary emphasis is on the physical rather than the life sciences, and especially on the ability to manipulate at will space, time, matter, and energy--virtually without limit. As a result the conflicts in these novels tend to be worked out in terms of force, energy, and resistance, a combination which makes for a violent, if not always a bloody, series of encounters.

This violence is not simply surface excitement.[26] The basic threat on which the story hangs is frequently the threat of personal destruction. Moreover, violence is sometimes seen, at least initially, as the best answer to a problem and as the most characteristically natural response, i.e. that which lies closest to the will to survive. More often, however, and in spite of the eventual rationality of response, the threat of violence and possible annihilation forces man to psychically strip for action, calls forth the instinctual cunning, adaptability, and creativity of the cornered life force, and effectively integrates the mind and emotions. Further, violence is ultimately successful as a means of solving the threat. The deeply felt relevance of such violence is nowhere more nakedly expressed than by Robert Heinlein in an anthology introduction: "You and I are here because we carry the genes of uncountable ancestors who fought--and won--against death in all its forms. We're tough. We'll survive. Most of us."[27]

The promise of science is perhaps best seen in A. E. Van Vogt's Rogue Ship in which an exploratory rocket, appropriately named the Hope of Man, undergoes five generations of political coups and counter-coups until its final social reorganization along democratic lines prescribed by a group of scientists.[28] Similarly, mankind is saved in The Players of Null-A when an intergalactic war is ended through the efforts of a small group of individuals trained in an advanced form of semantics, and the galaxy is made safe for the benefits of that discipline which formerly had been limited to Venus and Earth. In Costigan's Needle an invention that opens a door to simultaneous reality levels enables a small group to achieve social harmony in a pioneer setting to which they bring only the technological and scientific skills of America in the mid-fifties. These are sufficient to create a utopia when those conditions are left behind which embody the cultural inertia of an imperfect, ill-adapted, and unscientific industrialism.

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Central to the science fiction writer's ideology is the assumption that science will continue to open up avenues that can be exploited technologically at reasonable cost and with those resources which are steadily being depleted by the rapidly expanding industrial complex and population of the West. "The age of science has not yet opened," according to Heinlein.[29] Like the earlier naturalistic philosophers, he assumes that scientific discoveries are the basis for cultural progress and that further scientific progress is the most important single variable in the human condition. It inevitably leads in one direction, greater understanding of the universe, and man has no choice but to follow where it will lead. Not to follow would be disasterous: "This is an era when the scientific method, its meaning and use, is indispensable to the mature man--we either use it, or we and our free democratic culture will go under"[30] (Emphasis added).

In one sense science fiction is a kind of historical fiction. The projection of man into the future assumes a theory, however unconscious, of history. In The End of Eternity Asimov uses as the basis for the novel an almost archetypal motif of science fiction, the necessity for a various and indeterminate future rather than one in which radical possibilities for evolutionary development are systematically eliminated in order to maintain a specific kind of organization of man's potential. The hero reluctantly destroys the basis for a kind of stasis and leaves man free to seek his future destiny in the stars rather than eventually to die out when, after thousands of centuries, he finds the rest of the galaxy filled up, and he is trapped on Earth. From one point of view, Asimov suggests the tenuousness of technical advance, the ease with which a tiny manipulation of reality can slow or even destroy the progress of invention. From another point of view, however, Asimov suggests the terrifying fragility of reality itself whose historical expression may be so radically warped. Given this fragile reality, men possessed of omniscience will express themselves conservatively and end by limiting man's possibilities. By developing one method of organizing human evolution, they ignore others and in the end threaten man with extinction because, playing safe, they choose to bind man to Earth rather than allow him to expand away from Earth and so fulfill his real evolutionary destiny.[31] Thus it is essential that man not be able to see into the future and to control scientific evolution in that future. To be able to do both might end in the destruction of the human race. Yet the classic science fiction situation assumes what might be called

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nodes along the line of historical development, points at which future possibilities warp together and may be given dynamic expression through the actions of a single individual or a small group. Further, these nodal points are at least dimly perceived by the individual, and usually he is very much aware of his significance for the future. How then should he make his decisions when faced with an inscrutable future?

Several alternatives may be seen. Where the individual's life is at stake, the answer becomes simply to preserve that life and whatever symbolic value, usually considerable, that it may have. This has the effect of preserving the future as well. If a life is not in danger, as in The End of Eternity or No Room for Man, the answer lies in choosing whatever course will provide for increasingly heterogeneous development. In general these novels assume a teleological historical development, an evolution toward a particular condition, most frequently as great a measure of diversity as possible. In the words of one hero, "The time has come when mankind must fragment so that his various facets may develop fully and unaffected by other facets nearby."[32]

Put another way, science fiction may be seen as a final imaginative stage in man's persistent attempts to control the environment. These novels represent an imaginative attack on the last stronghold of man's environment, the future. The result is to sever the future from the causality of history. Science, emphasizing rationality and integration, offers a means of eliminating the limiting tendencies of heredity and environment. Turning its back on its own history, a history of error even if progressively less eroneous, science looks ahead to a future in which man and the universe will move closer together. In religious terms, these novels chronicle the final destruction of sin and the coming of the earthly kingdom. In the terms of the science fiction writer, the result is the triumph of reason over the primitivism of the unconscious or unintegrated mind, the culmination of Spencerian naturalism: evolution from undifferentiated homogeneity to differentiated heterogeneity.

In a world sensitized by the presence of enormous forces, awed by the immensity of space, and anxious over the threat of annihilation, science fiction presents a symbolic preservation of future possibilities, not on a limited scale, but on an expanding basis. By banishing space and time, the writer imposes on the universe the organization and qualities of the rational mind--unifying all experience, eliminating duality and all difference between

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actuality and potential, eliminating as well virtually all restrictions of physical laws.

At the end of The Stars My Destination, after a literal baptism by fire, Gulliver Foyle spreads broadcast through the world a substance which may be detonated by will alone and, in the patois of the gutter from which he came, calls on the exploited masses to rise to the challenge and become men:

> You pigs, you....You got the most in you, and you use the least....Got a million in you and spend pennies. Got a genius in you and think crazies. Got a heart in you and feel empties....Take a jam to make you think. Take a challenge to make you great ....Pigs, you! All right....I challenge you, me. Die or live and be great. Blow yourselves to Christ gone or come and find me, Gully Foyle, and I make you men. I make you great. I give you the stars.[33]

This is the culmination of human history: the stars--Man's destination.

In his introduction to All About the Future, Robert Heinlein predicted that man was about to enter the cruelest and most difficult era in history. The implication was clear, however, that human civilization based on increasing technological mastery would survive and continue to progress. The fifteen novels analyzed in this study suggest the same reassuring conclusion. Indeed, much of the appeal of science fiction probably could be traced to the reassurance that it affords. Thus to dismiss the genre as simply escapist fails to grapple with the evident, if narrow, popularity of science fiction in any meaningful way. Science fiction does not offer a refuge from the real world so much as it strips away the veil that hides the actual direction in which the real world is developing--a future safe for the individual and the democratic ideology.

Professor Aydelotte has convincingly argued that the detective novel, far from being an intellectual exercise for the reader, encourages him to depend on the detective for the solution to the murder and in the end reassures the reader that this dependency was necessary and well-placed.[34] To the extent

that the science fiction novels analyzed here are representative, science fiction seems to perform a similar function. The reader is led to put his trust in the hero supported by his technological achievements. In the end, with few exceptions, the reader recognizes that the hero has earned that trust well--and the dependency that is part of it. In contrast to the detective novel, however, the ultimate dependency is not upon a unique individual but on the scientific method, that particular means of organizing experience on which the hero so visibly relies.

Perhaps it is this ultimate dependency on a method that most reassures the reader. Progress does not depend on frail individuals groping for direction. One need only subordinate oneself to the method in order to be carried forward on the crest of progress. At the heart of science fiction is an optimistic naturalism that sees technological evolution as the basis for cultural advancement, and subordinates the individual to a vast evolutionary time scale that streams from the dim past into the far-distant future and moves, in terms of space, from the historic cradles of civilization to the far-flung undiscovered planets of the universe. It is no wonder that sin and the unconscious pale into significance and man gives way to Man. Included in a simple, unsophisticated philosophy that does violence even to some modern scientific discoveries, these qualities at once define and limit the popular appeal of science fiction.

To the extent that scientists write and read science fiction (and readers are remarkably quick to catch errors of scientific fact in the writing), the literature may be seen as a symbolic affirmation or rationalization of one's participation in the corporate organization of science at a time when it is not at all clear that science is the unqualified bestower of progress and the better life that it once may have seemed. Thus science fiction may in some cases become a dancing out of the author's anxieties over the morally ambiguous position of the scientist in society and the ultimate value of science in a world threatened daily with nuclear holocaust. In these novels the individual who waves the wand of science has things his own way. Freed finally from political restraint, he often succeeds in grounding a new order on the rock of science. Once this is accomplished, man flourishes in diversity, and his institutions are orderly, efficient, and humane.

NOTES

[1]See especially, John Campbell, ed., The Astounding

Science Fiction Anthology (New York, 1952), p. xiii; A. C. Clarke, "In Defense of Science-Fiction," UNESCO Courier, XV (November, 1962), 14-17; Isaac Asimov, "The Sword of Achilles," Bulletin of the Atomic Scientists, XIX (November, 1963), 17-18; Robert Heinlein, "Science Fiction: Its Nature, Faults and Virtues," in Basil Davenport, ed., The Science Fiction Novel (Chicago, 1959), pp. 17-63.

[2]Pebble in the Sky is an exception. Serialized in 1933, it was not published as a novel until 1950. Not cited in the text, but one of the fifteen novels read, is Damon Knight's Beyond the Barrier (New York, 1964).

[3]Ray Bradbury, "Why Science Fiction?" Nation, CLXXVI (May 2, 1953), 364.

[4]Robert Plank, "Lighter than Air, But Heavy as Hate," Partisan Review, XXIV (Winter, 1957), 112, 116.

[5]A. E. Van Vogt, The Weapons Makers (New York, 1947).

[6]A. E. Van Vogt, The Players of Null-A (New York, 1966). Published in 1948 as The Pawns of Null-A.

[7]Murray Leinster, The Wailing Asteroid (New York, 1960).

[8]Alfred Bester, The Stars My Destination (New York, 1957).

[9]A. E. Van Vogt, Empire of the Atom (New York, 1956).

[10]Davenport, pp. 28-30. Heinlein's attitude toward conventional fiction is neatly summed up later in the essay: "Can James Joyce and Henry Miller and their literary sons and grandsons interpret the seething new world of atomic power and antibiotics and interplanetary travel? I say not....I, for one, am heartily sick of stories about frustrates, jerks, homosexuals and commuters who are unhappy with their wives--for goodness sakes! Let them find other wives, other jobs--and shut up!" Ibid., p. 56.

[11]Ibid., p. 53. See also, Reginald Bretnor, ed., Modern Science Fiction (New York, 1953), pp. 278-94 passim. and pp. 12-13 ff.

[12]Isaac Asimov, Pebble in the Sky (New York, 1950).

[13]Murray Leinster, The Wailing Asteroid.

[14]Alfred Bester, The Stars My Destination.

[15]A. E. Van Vogt, The Players of Null-A.

[16]Davenport, p. 25.

[17]New York, 1962. Originally titled Necromancer.

[18]New York, 1953.

[19]New York, 1964.

[20]New York, 1963.

[21]Daniel Galouye, Lords of the Psychon (New York, 1963).

[22]A. E. Van Vogt, The Players of Null-A.

[23]J. Hunter Holly, The Time Twisters.

[24]Murray Leinster, The Wailing Asteroid.

[25]Colin Kapp, Transfinite Man (New York, 1964).

[26]The violence of science fiction is discussed by Robert Block, "Imagination and Modern Social Criticism," In Davenport, pp. 148-50. Block also notes, however, a frequent emotional primitivism of personal ethics--a quality not notably characteristic of the works discussed in this paper.

[27]Martin Greenberg, ed., All About the Future (New York, 1955), p. 23.

[28]New York, 1965.

[29]Greenberg, p. 19.

[30]Davenport, pp. 57-58. A similar statement emphasizing the necessity of adopting to rapid change is made by Isaac

Asimov in "Social Science Fiction" in Bretnor, p. 190.

[31]By continually frustrating the development of space travel, the leaders in effect make cultural lag a permanent institution. Technological development constantly works to thwart the unnatural system but is restrained from going beyond a particular point in its evolution. Because technological progress is assumed to determine cultural progress, the power of the Eternals must be broken and technology released. Man's destiny lies in nature in this case, and the ability to manipulate the future leads to disaster because it imposes on that future the limited perception and understanding of a past which constantly must be left behind if man is to realize his full potential for growth.

[32]Gordon Dickson, No Room for Man, p. 152.

[33]Bester, F. 195.

[34]William Aydelotte, "The Detective Story as a Historical Source," The Yale Review, XXXIX (Autumn, 1949), 76-95.